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ABSTRACT

Twelve research reviews which were compiled by The Center for Vccational and Technical Education, Columbus, Ohio, are organized under these topics: (1) Review and Synthesis of Research Series, which were prepared through the facilities of The Educational Resources Information Center (ERIC) Clearinghouse on Vocational and Technical Education in the areas of curriculum development, student followup, administration, and rural, agricultural, cooperative, health occupations, distributive, and home economics education, (2) Research Bibliographies for the change process and consumer and homemaking education, and (3) Planning Research Strategy which reviews two proceedings of conferences on distributive education and the disadvantaged. "Plain Talk," a continuing column by the editor discusses the need to evaluate educational programs and plan for the future. An additional 23 studies and ordering information are contained in the bibliography. (SB)

# RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

NOVEMBER 1970



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## Vocational Education Research: A Status Report


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**George L. Brandon, Editor—Marsha Golden, Research Assistant**

PREFACE

# State of Vocational Education—Status or Limbo?

SOMETIMES vocationalists are hypersensitive about *status*—their image and that of the program in the eyes of others. Happily, the root and cause of the defensiveness are disappearing as the values of vocational education become increasingly obvious. Even the modernists and sophisticates, with their coinage of "career education," "manpower," and other ten-cylinder terms to sidestep the unsavory "vocational education" terminology, finally reconcile themselves that vocational education *is* vocational education. With resignation of critic and disciple alike, the status term is *vocational education* because it continues to evolve and grow in meaning to all sectors of society.

There is a similar status to the discovery process in vocational education. This month's yellow-page reporting is small testimony to the fact. But researchers and program applicators have a long way to go in research utilization and change. Accurate status reporting in these days of political feet-dragging may be better stated as *limbo*. And most of Webster's definitions are appropriate to the limbo label. It seems to fit the entire research community. Even military procurement and purchase of war hardware, certainly the products of a great deal of research, are facing up to the challenge of "try before you buy." What are the implications for educational research?

**"RV" is in limbo, too.** As we prepare November issue copy in August, both time and money for *RV* run out. Status reporting may well be a swan song for the yellow pages after three years and three months of research reporting. It's all in limbo and quite in keeping with the political climate—November is the month of charm! Hopefully a new *RV* design and product may emerge, or begin to emerge, well in advance of the November reading of this copy. But it is not in the cards to report now.

**Twist of this month's reporting.** It is not unusual that *RV* is on another "kick" if for no better reason than the pure psychology of communication and variety as a spice of life. The abstracts this month and the manner in which they are drawn are far short of the dramatic, but it is a play on the *status* theme.

Research Reviewer Golden has given capsule treatment within our restricted space to a series of research reviews or syntheses of various specializations of vocational research. Her format for the treatment is described as introduction to the abstracts themselves; it cannot be applied equally well to all of the reports.

Consequently, there is a professional burden to the reader which carries an obligation to obtain the full-blown copies of the research syntheses from their publishers. The admonition suggests that each of us become *more* educator and vocationalist—and *less* specialist. If we cannot learn from each other we are in poor shape, indeed! The principle is equally applicable to our *total* professional effort and responsibility to the welfare of those we serve.

**Let's look to the seventies!** The year 1970 is barely eight months of age and it is a new decade. It outranks in importance the traditional date of January first to make important resolutions. Even the Bureau of the Census thinks so. Its statistics of the population and the nose-counting process will carry implications of critical importance to all vocational educators at all educational and community levels. No doubt, each of us will expect the downright impossible of the Bureau—to show a population gain in each of our communities, counties and states. This fact is already apparent as preliminary census reports are made known.

Perhaps as vital parts of research and social bookkeeping, vocational researchers must assume the initiative and the long-term persistence to spark the products of the census and their implications. Obviously, researchers cannot carry the total load of professional responsibility. As burrs under the saddle of ignorance and complacency, however, they can and should keep alive interest, interpretation and implications to vocational education from new knowledge which will be revealed.

No doubt, in the months ahead we will have targeted to our ears and eyes the statistics and facts of the census in an endless stream of information. Will the new facts point up

new meaning for vocational teaching, guidance, supervision, and administration? To what degree will needs for program adjustment make themselves known? Can we, as professionals, rest on our oars that current plans to meet population needs will hold water until the 1980s?

The characteristics and nature of the nation's workforce and manpower, including educational manpower, will undoubtedly reveal themselves in many ways in quantity and quality in the weeks and months ahead. It is highly interesting and loaded with implications that the Bureau of the Census will make available magnetic computer tapes for further analysis and study.

In addition, computer analysts will be designated by the Bureau. To be sure, with the great number of computers which are active in vocational education programs for diverse uses and purposes, vocational educators—you and I—should be among the best informed and highly educated on the characteristics of the people and manpower of America and their vocational needs. Will we? (G.L.B.)

## Topic One: REVIEW AND SYNTHESIS OF RESEARCH SERIES

See Bibliography for Information on availability of complete studies

### Introduction

Publications abstracted in this issue and the additional ones listed in the bibliography comprise a series which has been a part of the total programmatic effort of The Center for Vocational and Technical Education, The Ohio State University, since 1966. Several publication in the series have been abstracted previously in *RV;* those abstracted here are fairly recent additions to the set.

Preparation of the Review and Synthesis publications has been carried out through the ERIC Clearinghouse at the Center. Many of the sources of information mentioned in the reviews are available from EDRS (the ERIC Document Reproduction Service), and accession numbers for these documents are listed in the bibliography included in each review.

These publications seek to define the state of the art for each topic or problem through assisting the reader to identify "substantive problems and methodological approaches for researchers as well as providing practitioners with a summary of research findings which have application to educational programs." The reviews are intended to provide researchers and practitioners with authoritative analyses of literature in each field approached.

In its treatment of this series, *RV* has attempted to follow a style and framework through which the following questions are answered about each review and synthesis:

1. What topics of the review subject does the publication cover, and how is the material organized?
2. What is the specific value or functional use to the *RV* readership?
3. What specific applications might be made of the material presented in the review?
4. Which segments of the *RV* readership would find the review the most useful?
5. How does this review measure up in comparison with other reviews and syntheses? Could it have been more comprehensive, more specific, etc., within the same limitations of space?

In some cases not enough information was available to answer all of these questions. However, the *RV* editors have endeavored to give readers an informal and subjective assessment of each publication and to direct readers to the reports which should be of special interest.

### Vocational Education in Rural Areas

**Review and Synthesis of Research on Vocational Education in Rural Areas.** B. Eugene Griessman and Kenneth G. Densley. ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, Las Cruces, and The Center for Vocational and Technical Education, The Ohio State University, Columbus. December 1969.

This report, a joint effort of two ERIC Clearinghouses, is presented in two sections: a sociologist and an educator review available research from their respective viewpoints.

"A Sociologist's Perspective of Vocational Education in Rural America," by B. Eugene Griessman, approaches the problem through demographic and ecological factors, economic considerations, racial and ethnic considerations, educational patterns, and political and legal considerations. Kenneth G. Densley, in "Vocational Education in Rural America: An Educator's Perspective," looks at curriculum, facilities and equipment, counseling and student personnel services, and teacher education.

The review notes that rural area residents have been at a distinct disadvantage in the employment sector, whether they have remained in a rural community or have migrated to urban areas. This disadvantage has been the result of limited resources, smaller school units, and lower expectations, among other factors. The function of this report is to provide "a review of some of these factors and synthesize the problems, if not the solutions."

Rather than assess the state of research on rural vocational education, these two papers examine the problem and refer to research which has been done. The papers, then, are valuable to the reader in a different way than the usual review and synthesis report. Rather than offering suggestions for what remains to be done in the area of research on the problem, these papers show the reader what remains to be done in attacking the problem, and lead him to sources which may assist him in approaching the problem.

State economic planners will be interested in the section of Griessman's paper which deals with economic considerations of vocational education in rural areas. They will also find a discussion of problems in providing qualified education for youths, (rural

or urban) and of regional planning in rural areas.

Teachers of on- and off-farm agriculture, teachers of homemaking education and counselors in rural schools will also find this publication to be most interesting. Mr. Griessman discusses utilization of vocational agriculture and homemaking courses to teach work skills, access to basic educational resource materials, and utilization of school-business-industry cooperative programs. He offers specific suggestions to educators for use in their programs and also for further experimentation.

In Densley's section on curriculum, a discussion on consolidation will be especially interesting to educators. The small size of rural school districts often prohibits implementation of a diversified curriculum, and one study suggested five examples of special approaches to the problem:

1. Sharing vocational education services between schools.
2. Sharing vocational education teachers between schools.
3. Sharing vocational education counselors between schools.
4. Providing special financial inducements to schools for offering quality vocational programs.
5. Simulating vocational education programs, coordinated by general or vocational teachers, so that youth might develop competencies for entry into occupations.

Also in the discussion of curriculum are sections pertaining to special programs and mobile facilities—two approaches to making the most of small size and limited resources.

Rural high school counselors will find the section of Densley's paper concerning counseling and student personnel services to be of value. Aspirations of rural youth are explored in depth, and a discussion of the socioeconomic implications of aspirations is also offered. Placement and follow-up in rural areas and research on dropouts are reviewed.

In addition to the educational community, this report should be helpful to others in understanding the special needs of youths in rural areas.

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**NEXT MONTH:** *Research Visibility* will focus on the topic, "Educating Women for the World of Work."

## Curriculum Development

**Review and Synthesis of Research: Analysis for Curriculum Development in Vocational Education.** Milton E. Larson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. October 1969.

Larson's review and synthesis concentrates mainly on research and writing published since 1963, but major contributions to the area of curriculum development produced prior to this date have been included in order to identify more clearly a particular trend or to provide meaningful backgound. Materials were gathered from ERIC as well as AIM and ARM. In addition, approximately 150 persons engaged in research at universities, colleges, state departments, in the Armed Forces, public agencies and private organizations were contacted as were all 50 RCU directors.

The review begins with a briefing on the background and structure of job and task analysis for curriculum development. It proceeds to identify resource materials (textbooks, handbooks and manuals, guides, reports of workshops, and papers) available on this subject. Sources of content information for analysis are reviewed, and types and techniques of analysis are summarized. The author then covers the topics of translating content into courses of study, building curriculum from analysis, and the systems approach to building vocational curriculum. He concludes with a summary of trends and new directions in analysis for curriculum development.

This review and synthesis should be useful to all persons involved in vocational education. The author notes that "with the development of a highly complex world of work and the rapidly changing nature of many jobs has come the realization that education for employment must be geared to the needs of the employer. To achieve this goal, the knowledges, skills, habits, and attitudes essential for securing and holding a job must be determined."

Readers who wish to expand their knowledge and competencies in analysis for curriculum development will be interested in the chapter on resource materials. The author states that resource materials are very limited on the subject of analysis for curriculum development; that which is available has a narrow approach. He notes examples of each type of resource material, and he suggests that "individuals seeking understanding of analyses must be willing to accept and be capable of understanding the techniques as developed by those services using the approach."

Chapters on sources of content information for analyses and types and techniques of analysis will be of interest to the reader involved in research of this type. Various sources of information are identified, with examples of each type noted. Types and techniques of analysis described are: occupational analysis, job analysis, task analysis, identification of content, building an inventory of identified skills and knowledges, classification of research findings, and models for analyzing occupations.

Readers involved in curriculum development will find the sections on translating content into courses of study and building curriculum from analysis to be of value. Methods of curriculum construction including the cluster concept, computer-assisted instruction, the project plan, and programmed instruction are covered.

The author offers direction for future research in two broad recommendations:

1. Progress in vocational education curriculum validation is directly dependent upon analysis. Therefore, large-scale use of analysis for all services is essential for improvement of program planning and instruction in vocational education.
2. A united and coordinated massive effort is mandatory to provide validated vocational curriculums for existing and emerging occupations. Further study should be made now to determine how this can best be achieved. It may be that one or more centers should be established with the unique function of curriculum building. Such a center must have: (a) competent professional staff having command of the total process of analysis and curriculum building; (b) hardware in the form of computers and other aids as well as the software needed, and (c) effective methods for dissemination to potential users.

This review and synthesis is particularly valuable to the reader who wishes not only to be briefed on the

status of research in the topical area, but to begin work on a problem in this area. Not only are especially relevant research reports noted and their information synthesized, as in other review and synthesis publications, but the author goes a bit further in describing the different elements of analysis for curriculum development with suggestions for the person who may be attempting this.

## Agricultural Education

**Review and Synthesis of Research in Agricultural Education: Second Edition.** Earl T. Carpenter and John H. Rodgers. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970.

This publication opens with a review of the research on the philosophy and objectives of agricultural education. It then surveys work done on manpower needs and employment opportunities in both on-farm and off-farm occupations. Research from many different areas of agricultural teacher education is reviewed and then synthesized in a "conclusion" section.

Other areas of agricultural education included in the review are: Learning Processes and Teaching Methods, Instructional Materials and Devices, Curriculum Development, Administration and Supervision, Educational Programs, Facilities and Equipment, Student Personnel Services, and Evaluation.

This is the second edition of the *Review and Synthesis of Research in Agricultural Education.* In preparing this edition, the authors considered more than 1,000 manuscripts released since the first edition. Approximately 500 manuscripts are included in the second edition's bibliography.

This work serves as a convenient source for obtaining an overview of research reported during the past three years, and it should help teachers, school administrators, supervisory personnel, and teacher-educators as well as researchers to discern the most consistent findings of studies performed during the period reviewed.

Those responsible for planning farm occupations education programs will find the discussion of manpower needs and employment opportunities studies to be useful. A comparison of methods used for determining needs in regional, statewide and local studies, along with specific studies cited and conclusions offered, appears to be valuable.

Personnel involved in curriculum development in both on- and off-farm occupations education will find the discussion of this topic quite informative. Methods of determining competencies are compared, and statistical methods of deriving meaningful groupings of the competencies for use in course organization are outlined. Also, six generalizations which the authors have encountered in many studies are presented.

Teachers will be interested in the chapter on instructional materials and devices. Studies which the authors found especially valuable in this area were those which developed and evaluated units of instruction on small gasoline engines, forest management, an achievement test in soil science, and course outlines and instructional materials prepared for teaching off-farm agricultural occupations.

The review concludes with a call for increased coordination among professional researchers in order to increase the efficiency of the research effort in agricultural education. Also, emphasis is placed on the need for the development of a new philosophical basis for agricultural education, and for a national curriculum development effort with appropriate use of the behavioral objective concept.

Considering the monumental volume of research available in agricultural education, the authors of this volume have succeeded in choosing the most relevant portions of it and synthesizing their findings into useful information. A great deal of the research which was considered was done by graduate students; this consideration reflects the fact that the majority of research done in this field is done by these students. As the authors note, however, "it is from experienced professionals that we can hope for well-designed, long-range projects that will provide answers to the more complex agricultural education problems."

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## Research in Cooperative Vocational Education

**Review and Synthesis of Research on Cooperative Vocational Education.** Harold R. Wallace. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970.

In view of the unique nature of the subject matter, this publication has departed from the usual review and synthesis pattern. The report begins with a discussion of basic concepts of cooperative vocational education: its terminology, parameters used in determining the scope and directions of the search and review, clientele of cooperative education, objectives, and an Educational Program Development Model. The review then describes research in the areas of student learner, employment community, educational technology and program implementation, and it concludes with a discussion of priorities, problems and issues.

The author notes that this report departs from the usual review and synthesis pattern in two respects: "First, there has been an attempt to take a much broader view, crossing the boundaries of the occupational fields within vocational-technical education and extending the search to wherever pertinent research could be found. The second departure is an attempt to focus more narrowly upon a specific instructional methodology."

Terminology associated with cooperative vocational education was difficult to pin down because of the different connotations often assigned to the same terms by different sectors of the vocational education community. Conflicting meanings for terms such as "occupational education," "work study" and "cooperative education" led the author to an investigation of the most applicable term. "Cooperative vocational education" was selected as the least confusing.

In order to identify the important elements of a cooperative vocational education program a list of tasks which, ideally, must be performed effectively if the program is to develop and function properly, is presented:

1. Develop a system for recruiting, selecting, training, and constantly upgrading the performance of effective teacher-coordinators.
2. Develop a system for providing and maintaining the facilities and resources

required for effective operation of the program.

3. Develop and maintain an effective advisory committee.

4. Develop and maintain an effective public relations program.

5. Provide for recruiting and selection of students.

6. Develop a program of vocational guidance including appropriate placement services and activities.

7. Develop a system for integrating the cooperative program with the education and training preceding and following it.

8. Develop a system to provide appropriate personal counseling, remedial or advanced instruction, or other special services as required by individual students.

9. Provide for effective selection and development of training sponsors and training stations.

10. Provide for the development and utilization of appropriate on-the-job training plans for each student.

11. Develop and maintain a program for utilizing the educational resources of the community to supplement and enrich the institutional program.

12. Provide for appropriate co-curricular activities including student organizations patterned after the professional and trade associations in the occupational areas served by the program.

13. Develop and maintain an effective program of related instruction which is geared to the needs of youth in their first contact with real employment and the world of work and effectively articulated with specific technical instruction and with the on-the-job training component of the program.

14. Develop a system for assessing and evaluating student performance, and for utilizing this information in appropriate program revision, vocational and personal guidance, training plan revision, etc.

15. Develop and maintain a continuous program evaluation system including appropriate communication and implementation activities directed toward constant upgrading of the effectiveness and efficiency of the program.

**Student Learner.** The report focuses first on the student learner and research which might be used as input data for curriculum development and implementation in cooperative vocational education. This chapter should interest *RV* readers involved in planning of cooperative programs and in identification of students for the programs. Studies concerned with student characteristics are sorted, classified and presented in a table which identifies the characteristics and types of students under study in each report.

The author found that popular research topics on the student learner were (a) personality, attitudes and personal values; (b) personal adjustment; (c) self image; (d) aspirations; (e) job satisfaction; (f) academic ability and achievement; (g) experience or occupational competence, and (h) biographical and environmental data.

**Employment Community.** The second area of focus is research on the employment community. It was theorized that the study of the employment community should include the following five major tasks:

1. Assessment of the manpower requirements for the employment community and projecting the demand for various types of workers.

2. Assessment of existing and anticipated manpower resources which might be available to satisfy the demand.

3. Using the information produced in steps one and two, development of an appraisal of job and career opportunities.

4. Assessment of existing and anticipated education and training resources which might have a significant impact on the supply of competent workers.

5. Selection of the industries to be served, the occupational clusters or careers, and the specific entry level and career development jobs in which the student clientele might receive on-the-job training and in which they might ultimately be employed.

Research reports in the area of manpower analysis are reviewed in order to acquaint the reader with some of the studies which might be valuable as source materials. These include manpower analysis studies, manpower data sources, comparing task analysis models, task analysis design problems, and occupational analysis studies.

**Educational Technology.** The third area of focus is research on "educational technology." It considers procedures, products and problems of research to determine instructional objectives and content, and strategy, tactics and plans in cooperative vocational education program development. The author includes tables which compare teaching-learning techniques, instructional strategies, and experimental pilot and demonstration projects.

**Program Implementation.** The final area of research focuses on program implementation. This chapter should be of particular importance to all teachers interested in cooperative education programs. Much discussion is devoted to the "artistry of the teacher": successful and unsuccessful teachers, the teacher-coordinator personality, objectives for teacher preparation, critical behaviors of teacher-coordinators, teacher-coordinator roles, teacher attitudes and opinions, and instructional methods for teacher training.

Gaps in the research effort are discussed in terms of the 15 cooperative vocational program development tasks listed in this review. The author thinks that first priority should be placed on need for the basic concepts of cooperative vocational education "to be logically organized, articulated, and subjected to systematic theory building with the establishment of guiding principles as the pervasive goal."

All *RV* readers involved with cooperative education programs should read this review and synthesis. The wide gaps in research in this area, even the lack of a definitive theoretical framework, should be noted. This is particularly important for those who are responsible for planning future programs.

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## Research in Health Occupations Education

**Review and Synthesis of Research in Health Occupations Education.** Lewis D. Holloway and Elizabeth E. Kerr. The Center for Vocational and Technical Education, The Ohio State University, Columbus. May 1969.

Materials reviewed in this publication were obtained from library sources (*Dissertation Abstracts, Masters' Theses in Education,* and *Nursing Research*), ERIC, and administrators, educators and health professionals who responded to letters sent by the investigators. Studies were selected in general from literature published after 1963, although some relevant studies completed prior to that date were mentioned.

Research was surveyed in the areas of manpower needs and employment opportunities, curriculum development, educational programs, instructional materials and devices, learning processes and teaching methods, student personnel services, facilities and equipment, teacher education, administration and supervision, evaluation, and research.

Although professional researchers

may not consider many studies in the review to be of a sophisticated nature, the authors have included ones which they felt helpful to persons in health occupations education. It is expected that this review will be of assistance to health occupations practitioners "in expediting the applications of research findings to operating programs in vocational and technical education."

The majority of the studies relate to nursing. This is to be expected, as nursing is the oldest of the health occupations. Noticeable gaps were found in the areas of philosophy and objectives, instructional materials and devices, facilities and equipment, administration, teacher education, utilization of workers, career progression, and research.

The quality of much of the research was questioned by the authors, and the suggestion was made that "interested individuals obtain copies of the actual studies and assess their quality before making decisions based upon the data and the investigator's conclusions."

*RV* readers interested in curriculum development in health occupations education will find the discussion on this topic to be particularly useful. Not only are relevant studies spotlighted, but the conversational manner in which they are presented adds much to the value of the presentation.

The authors note that readers familiar with the efforts to shift the emphasis in educational programs from teacher-centered to learner-centered and cognizant of the relatively recent work in the area of behavioral objectives will be particularly interested in a study by Decker (1967) entitled *A Functional Analysis of Paramedical Occupations as a Foundation for Curriculum Development.*

Those interested in establishment of health occupations programs may be interested in a study by Dustan (1963) which compared the characteristics of students in three types of nursing education programs with the requirements and objectives of each of those programs. Other studies mentioned in the section on educational programs at the post-high school level are equally relevant. Several pilot projects for health occupations at the high school level are described in another section on educational programs.

This review and synthesis should also provide an excellent resource for groups responsible for establishing new education programs and for those responsible for evaluating existing programs.

The authors made the following recommendations for meeting the present future needs in health occupations education:

1. There should be a significant increase in education funds, primarily at the federal and state level, for operating programs and for conducting research.
2. In-depth analysis should be made of the functions of many of the health occupations in an effort to ascertain the actual roles and the learning experiences needed to prepare for the roles.
3. Health occupations personnel at all levels should come to grips with the question of how health personnel can best be utilized to provide quality patient care.
4. Colleges and universities should be encouraged to develop programs to prepare personnel to serve as teachers and researchers and to provide the leadership for health occupations education.
5. Studies should be conducted to determine the best type of preparation for teachers in health occupations education programs.
6. More health occupations education personnel should be prepared and encouraged to use new approaches to education.
7. Informal classroom experimentation should be conducted to test the new ideas which result from research.
8. Studies such as those reported in the review should be replicated.
9. Increased efforts should be made to disseminate the results of research studies in order to minimize duplication of efforts.
10. Ways should be devised to increase coordination and cooperation between vocational-technical education and the health professions, professional schools,health-oriented associations, and health agencies in order to arrive at workable solutions to concerns related to health occupations education.

This review and synthesis has succeeded in presenting available material. The discussion surrounding the factual material increased the value of the publication to the reader and the recommendations will, hopefully, lead the way for progress in this area.

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## Placement and Follow-up of Vo-Ed Students

**Review and Synthesis of Research on the Placement and Follow-up of Vocational Education Students.** J. Kenneth Little. The Center for Vocational and Technical Education, The Ohio State University, Columbus. February 1970.

This review reports studies made since 1965. Sources from which they were obtained included the ERIC Clearinghouse on Vocational and Technical Education at The Ohio State University, The Center for Studies in Vocational and Technical Education at the University of Wisconsin, indexes of research literature, and Research Coordinating Units of State Departments and Divisions of Vocational Education. The reviewer has mined the literature for significant trends in the job histories of graduates of vocational and technical education programs and he has attempted to provide baselines for evaluating these programs.

Reviews are made of the available literature from the following areas: (a) general surveys, (b) studies of specific programs (c) summaries of placement information, (d) studies of special groups, (e) benefit-cost studies, and (f) follow-up study procedures.

An evaluation and summary of the research reports reviewed in this study point out the possible value of this type of information in leading "the way to improved decision-making by governments and institutions on questions of priorities among types, levels and fields of education and training programs, and on decisions about allocation of resources to these programs."

Studies on placement and follow-up of vocational education students fell into three succeedingly sophisticated categories: (a) *administrative reports* —information describing the occupational status of graduates of specified educational programs, the findings of which have little or no general applicability; (b) *comparative studies*— studies comparing graduates of differ-

ing types of educational programs within the same school, or within samples of schools in the same state, or within samples of schools drawn from many states, the findings of which yield more generally useful information, and (c) *benefit-cost studies*—further refining the analysis of occupational education and training information, demonstrating the types of information and research techniques required to establish the economic effectiveness of vocational education programs.

## Findings Uncovered

The review of research uncovered findings such as:

- The recent interest of economists and sociologists in vocational education increases the prospect of increased quantity and improved quality of research in the near future.
- Methods employed in follow-up studies have inherent hazards which must be overcome through programmatic research of such scope and depth that definitive answers can be found.
- Although it was found that few state departments or school systems have plans to make systematic evaluations of the worth of their vocational education programs, the increasing share of tax expenditures made by education will force them to provide better information about cost-effectiveness.
- Vocational-technical programs are successfully preparing persons for jobs, although secondary school counseling services are not typically credited with being helpful in their placement.
- The lack of well-developed placement programs may be a crucial weakness of many current programs of vocational-technical education.
- The literature reviewed offered few suggestions for improving future research efforts. The author suggests that a critique of the methodology in this field is needed and new efforts should concentrate on designing the system of research strategies.

## Research Problems

The reviewer offered some observations about research problems and procedures dealing with follow-up studies and placement:

1. Follow-up studies and placement should be viewed as a component of a larger system of studies—the evaluation of educational programs.

2. The evaluation of educational programs should use a systems approach in which the purposes of the educational program are defined clearly, outcomes of the programs are described specifically, higher criteria for achievement of purposes are developed, and research designs are adapted accordingly.

3. The procedures of cost-benefit analysis, or cost-effectiveness, exemplify the types of conceptualization required, but current studies illustrate that research strategies usually do not have general applicability. Researchers must wrestle with the central elements of their substantive problem. Specific research techniques or methods are effective only as they fit the problem.

4. A major problem in the evaluation of educational outcomes is in separating the value added by the school experience from the effects of manifold non-school activities.

5. There is a need for a comprehensive longitudinal study of the in-school and post-school careers of cohorts of persons who move through the education sytem along different paths.

6. Most studies attempt to evaluate programs of education in terms of the organization of the educational system. They compare persons who have been enrolled in specifically named programs for specified periods of time with specified teacher-evaluators of achievement. Little research, if any, reports on persons when occupational skills and resulting employment come about through non-school activities.

7. Most research starts with persons in school and moves forward. Such studies should be complemented by acquiring better information about those being employed, including the nature of their pre-employment training, if any.

8. There is need for more explicit understanding of variations in the labor market and in employment practices as they affect the placement of graduates of education and training programs.

9. Within-group analysis looking at differences among graduates of training programs may reveal useful insights not observed by use of statistical averages.

10. Studies should be designed in which sophisticated statistical analysis would be appropriate and helpful.

11. A major error in many studies is inference of causal relationship between variables when either the data or method applied does not warrant the inference. This is a methodological and logical error which pervades research in many fields.

12. The basic weaknesses of the studies, from the research point of view, are their weak design and inadequate statistical treatment. In fact, many of the studies were not conceived as research. They provide much information but little knowledge. Contributions to knowledge, in the sense of useful applications of information to important areas of application, are a too infrequent outcome of much of the sophisticated research activity.

## Questions to Answer

The reviewer notes it is important that educational planners and school administrators inform themselves upon such questions as:

1. What happens to the young men and women who try to find work instead of continuing school beyond graduation?

2. Are there important differences between the job-finding experiences of graduates of vocational education programs and of graduates without such preparation?

3. Does the school program, teaching staff and counseling service assist youths who go to work as effectively as it assists youths who go to college?

This review and synthesis should help educational planners and school administrators determine which placement and follow-up activities have been the most effective, and what steps might be taken to improve the quality of such efforts. In addition, the publication will be of value to teachers and others interested in providing youths with the most beneficial vocational programs. It can serve as a guide for suggesting and promoting placement and follow-up activities for their schools and school districts.

Recommendations for future research efforts are spelled out definitively. The work is, in our estimation, a valuable addition to an area of vocational education which needs increased attention.

## Administration of Vocational-Technical Education

**Review and Synthesis of Research on the Administration of Vocational and Technical Education.** Ralph C. Wenrich. The Center for Vocational and Technical Education, The Ohio State University, Columbus. March 1970.

Wenrich's study is concerned with research considered most significant in the organization and administration of vocational and technical education at high school, community college and adult education levels during the period 1963 to 1968. Research which cuts across all occupational fields is the main focus of this report; that relating to particular fields is being reviewed in separate reviews and synthesis for each field.

Data for this review were gathered from the ERIC system as well as from state Research Coordinating Units for Occupational Education. The amount of research being done in organization and administration of vocational education has increased considerably within the period covered by this review. The reviewer has divided the subject into nine research areas: policymaking, organizing for administration, program planning, staffing, financing, facilities planning, evaluating, school-community relations, and research.

Information presented in this review should prove useful to both vocational education researchers and practitioners, serving as a guide for future activities for the former and as a summary of pertinent findings for the latter.

### Program Planning

Attention of *RV* readers is directed especially to the sections on program planning, which deal with the activity at both state and local levels. It is noted that program planning on any level is generally preceded by a study of the manpower conditions in general and the specific manpower needs in a particular area plus an assessment of the needs and interests of those to be served. Area manpower needs studies made in New York and in Michigan are offered as prime examples of preplanning efforts at the state level.

Another report of interest to those involved in statewide planning deals with a study which the Oregon State System of Higher Education made in 1967 to develop a dynamic system for input of data on human and occupational resources for use in developing vocational education programs to meet current and future occupational needs. This report contains detailed descriptions of instrument development, bibliography and extensive appendixes containing related information, an instrument analysis, a guide for administering instruments, the instruments, a supplement to instrument utilization, task descriptions, and classification loadings.

The attention of those concerned with local needs and interests surveys is directed to a 1966 study of the National Education Association. It offers 11 generalizations which should be useful as guidelines for future efforts.

Staffing vocational and technical education programs should be of paramount concern to *RV* readers. The critical imbalance between supply and demand of qualified persons in many areas has brought forth several studies dealing with recruitment of staff. Two studies have investigated the military as a source of vocational teachers, and both of them found that this group has potential for being an important source of new teachers.

Another study which investigated variances in qualifications and standards of vocational education teachers concluded that there are no universally accepted definitions or standards relative to vocational education in the United States, and that certification standards lack uniformity across the country.

Much need exists for further research in financing and facilities planning. Only two studies are mentioned in the facilities planning area: a Wisconsin study offering guidelines for facility planning, and a model developed in Pittsburgh, Pa., for planning facilities in the occupational, vocational and technical divisions of five new "super high schools" accommodating 5,000 to 6,000 students each.

*RV* readers involved in evaluation will be interested in the chapter on evaluation, particularly that section devoted to research of techniques and criteria. One report (Hamlin, 1967) outlined a procedure for the effective use of citizen evaluation committees. Also noted is a manual produced in 1968 by Byram and McKinney on evaluation of local vocational education programs for administrators, teachers and citizens based on a research study of 10 local school districts in Michigan.

The review of studies investigating areas where further research is needed should be of use to readers planning research in the area of administration. A 1966 study of research needs in Wisconsin's vocational and technical education system identified 14 categories related to the broad areas of occupational opportunities, human resources and educational resources. A study conducted by Miller in 1967 identified 10 activities considered by representatives of business, industry, government, and education to be research priorities.

### Areas Needing Research

Several projects funded by the U.S. Office of Education which are still in progress are listed. Other areas in which research is needed are enumerated by the reviewer:

1. The internal administrative structures of educational institutions, especially the comprehensive high school and the multi-purpose community college. Also, the administrative structures of local school systems and state departments of education should be studied with a view toward making them more functional in regard to vocational and technical education.
2. The sources of vocational and technical teachers and the motivations for entering the teaching profession; also, problems of retention of faculty and administrators.
3. The financing of vocational and technical education, including the cost of alternative methods of training.
4. The more effective use of modern educational theories and technology in vocational and technical programs. This includes the adaptation of practices in general education (such as ungraded schools, team teaching, and flexible scheduling) to vocational and technical education.
5. The better use of community resources, including methods of combining classroom instruction and on-the-job training.
6. The articulation of vocational and technical education on the high school, community college, and adult education levels.
7. The effects of decision-making processes on the Federal, state, and local levels on the allocation of educational resources.
8. The use of program planning and budgeting techniques, including more effective approaches to evaluation of local programs.
9. The identification of factors which influence change and result in dynamic vocational and technical programs.

Although this review and synthesis has covered some of the most significant offerings in the field of administration research, and has pointed out areas which need further study, it has been noted that more "review" than "synthesis' is presented. Specific reports are briefly described, but it is left up to the reader to compare and contrast the separate units of research under each topic in order to determine which research methods have been most productive in terms of results, and exactly where past research has left off and new research efforts should begin.

## Distributive Education

**Review and Synthesis of Research on Distributive Education: Second Edition.** Richard D. Ashmun and Roger A. Larson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970.

This second edition review and synthesis of research on distributive education covers studies made during the years 1966 through 1968. The studies include education and training done by business firms and by private and public educational institutions. Doctoral dissertations and masters' theses have also been included.

The publication covers the usual review and synthesis topics of philosophy and objectives, manpower needs and employment opportunities, curriculum development, educational programs, instructional materials and devices, learning process and teaching methods, student personnel services, teacher education, administration and supervision, and evaluation.

Persons who are planning to conduct research projects in distributive education will find the section on "Areas of Needed Research" especially valuable. Curriculum development is mentioned as a high priority area, and other areas suggested as needing research attention are:

1. The realistic and effective collection of occupational data upon which to base program development and expansion activities including school and non-school sources of information.
2. Experimental research designed to determine the most effective ways to prepare persons for distributive occupations, e.g. cooperative versus non-cooperative.
3. Research on the competencies and behaviors necessary to be an effective teacher of distributive education, and the structure for a teacher education program that would develop these competencies and behaviors.
4. Experimental research designed to determine the best ways to prepare certain kinds of persons, such as the disadvantaged, for specific kinds of distributive occupations.
5. Evaluation of program effectiveness based on student outcomes, rather than on program or student characteristics. This may include using the cost-effectiveness approach that is currently being tried by vocational educators.
6. The development of predictive tools to determine the relationship of certain elements of an instructional program in distributive education.
7. Experimental research designed to measure the effectiveness of certain kinds of facilities and equipment, such as a model store, in training distributive workers.
8. Effective means to assess the quality, quantity and type of occupational experience required to be an effective teacher, and how to structure programs for obtaining this experience.

Distributive education teachers and coordinators should find the new developments in the fields of learning process and teaching methods to be interesting and useful in their own work. Potentially important are the findings of a study on business games and two studies on the subject of case problems. A field which has received little specific attention is that of club resources, although two studies were mentioned which covered this field incidentally.

This publication should also be useful to community and civic leaders involved in D.E. programs. Limitations of this report are evident, but these are acknowledged by the authors in the introduction. It fulfills the review and synthesis purpose admirably.

## Home Economics Education

**Review and Synthesis of Research on Home Economics Education: Second Edition.** Helen Y. Nelson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970.

This second edition covers the philosophy and objectives, manpower needs and employment opportunities, curriculum development, educational programs, instructional materials and devices, learning processes and teaching methods, student personnel services, facilities and equipment, teacher education, administration and supervision, evaluation, and research. Material is included from the period 1965 through 1968, and a few studies which had long been in progress have 1969 datelines.

Miss Nelson notes that reports included are relevant to home economics education in junior and senior high schools, area vocational schools and continuing education programs. At the college level, studies included are concerned with teacher preparation.

This updating of the first review and synthesis should be of value to researchers and to students in graduate programs. An attempt was made to analyze, summarize and synthesize all significant research literature in home economics education for the period, and to present that which would be of the most value to the intended readership.

The author states that "one of the great needs of home economics education is research in its philosophical foundations to provide direction, rationale and justification for decision and action in its programs."

Curriculum development is one area in which a great deal of research has been completed recently. More studies dealing with curriculum development were available for review than in any other aspect of home economics education.

Of special interest to home economics teachers, the subsection on "Needs of Learners" describes the findings of a number of studies, especially on the particular problems of adolescents.

Miss Nelson made the following suggestions for future research that will help fill gaps in home economics education:

- A series of longitudinal studies in which a sample of teenagers would be followed through occupational training and into the world of work.
- Study of the length and sequence of observation and work experience in home economics occupational programs.
- Investigation of efficient ways of getting teachers prepared to work in occupational home economics programs.
- Longitudinal studies of career patterns for girls; the differences in vocational development between girls and boys.
- Continued study of the relationship of home environment to success in employment.
- Building curricula for the disadvantaged with systematic and thorough evaluation in the field to assess impact of materials and methods.
- Development, production, field testing and evaluation of flexibile modules of curriculum (i.e., learning resources designed and produced concurrently with small cores of objectives, concepts and generali-

zations and evaluated with criterion referenced tests).

- Studies of optimum sequence of learning.
- Research on the long-term effects of curricula in homemaking, consumer education and occupational training.
- More emphasis on program evaluation.
- Continued research on characteristics and needs of learners.
- Research focused on the selection, training, and effectiveness of paraprofessionals in home economics.
- Identification of specific competencies in observable, measurable performance terms needed by home economics teachers and teacher aides; differentiation between competencies needed by teacher and aide; and further differentiation among competencies needed by teachers and aides for work with different age groups, different social groups and for different purposes.
- Testing the effectiveness of various kinds of teacher education procedures for developing specific teaching competencies.
- Further validation and standardization of instruments already developed.
- Replication of studies.

The reviewer has done an admirable job in both the *review* and *synthesis* aspects. All available material was certainly not presented; selectivity in the material used is evident. Guidelines used for inclusion were stated by the reviewer to be "the presence or absence of guiding hypotheses, documentation of the validity and reliability of measurement instruments, appropriateness of observation methods, quality of sampling design, the proportion of sample responding and appropriateness of the methods of analysis."

## Topic Two: RESEARCH BIBLIOGRAPHIES

See Bibliography for Information on availability of complete studies

### Research on Consumer And Homemaking Education

**Bibliography of Research on Consumer and Homemaking Education.** Anna M. Gorman and Joel H. Magisos. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970.

This bibliography provides a document base for further research, an inventory of existing research and examples of appropriate research methodology. It covers research produced from November 1966 to June 1970. All listed documents are available through the ERIC Document Reproduction Service or through other sources noted with the citation.

The document base for this bibliography consisted of the first four volumes of *Research in Education and* the first nine issues of *Abstracts of Research and Related Materials in Vocational and Technical Education.* Ten classifications chosen from the *Thesaurus of ERIC Descriptors* were utilized in the search: Consumer Economics, Consumer Education, Consumer Science, Curriculum Evaluation, Educationally Disadvantaged, Home Economics Education, Homemaking Education, Occupational Home Economics, Research Methodology, and Vocational Education.

The bibliography is arranged alphabetically by author and title in each of eight sections:

*Consumer Education*—documents dealing with some aspect of consumer education, such as money management, budgeting, consumer behavior, and use of credit.

*Disadvantaged*—documents focusing especially upon research and programs of consumer and homemaking education for persons with special needs.

*Evaluation*—studies concerning the evaluation of consumer and homemaking education programs.

*Homemaking Education*—documents concerning the broad field of homemaking education, such as program descriptions, student needs and course content.

*Research Methodology*—documents concerning various research methods which have applicability to consumer and homemaking education, such as surveys, measurement instruments, criterion measures, and manpower forecasting.

*Teacher Education*—citations concerning teacher education for all phases of home economics education.

*Vocational Education*—studies from the broad field of vocational education which have features applicable to consumer and homemaking education.

*Wage Earning Home Economics*—research studies and program descriptions concerning wage-earning occupations related to home economics.

### Change Process in Education

**A Selected and Annotated Bibliography: The Change Process in Education.** Gail J. Skelton and J. W. Hensel. The Center for Vocational and Technical Education, The Ohio State University, Columbus. 1970.

The publication is a part of a project entitled "The Change Process in Vocational and Technical Education" conducted by The Center for Vocational and Technical Education under the direction of James W. Hensel. A primary purpose of the document is "to provide a review of relevant research concerning the change process in education for use by researchers at The Center for Vocational and Technical Education." It is expected that other researchers will find the document useful, though it is intended only as working resource.

Vast numbers of research studies in this field made necessary a set of criteria for selection of the most relevant. The studies included must:

1. Deal with the change process in education rather than other fields (such as agriculture or sociology).
2. Be concerned with the specific areas of interest which The Center task force of the Change Process delineated as having top priority. These areas included: (a) The relationship between various types of communication processes, patterns, structures, and high or low change orientation and/or adoption behavior in an educational organization; (b) the decision-making process in an educational organization; (c) the communication behavior patterns of opinion leaders and isolates.

Bibliographic entries are abstracted and arranged in classifications of: (a) empirical works on the change process, (b) theoretical or non-empirical works on the change process, (c) collections of readings on the change process, (d) bibliographies on the change process, and (e) works from dissertation abstracts. ERIC availability information is listed with each item when the publication is available through that source.

See Bibliography for Information on availability of complete studies

## Plan for Research in Distributive Education

**A Plan for Research in Distributive Education: Report of a Research Planning Seminar. Final Report.** Neal E. Vivian. The Center for Vocational and Technical Education, The Ohio State University, Columbus. November 1969.

A research planning seminar was conducted at The Center for Vocational and Technical Education in July 1967. Participants at the two and one-half day meeting were national leaders in distributive education and resource personnel from educational research and the behavioral sciences. The primary purpose of the seminar was the development of a systematic procedure for evolving long-range research plans in distributive education through establishment of research priorities and development of a matrix for facilitating planning based on estimated priorities and availability of funds.

William W. Farquhar of Michigan State University contributed a paper outlining "Some Problems of Design for Educational Research." Major problems of educational research design, as seen by him, are related to theory development, oversimplified designs, manipulation and control of variables, adequacy of criteria, ethics, and funding.

William D. Hitt, Columbus Laboratories, Battelle Memorial Institute, presented a general strategy for psychological research that transcends specific theories and methods. Three basic steps in this strategy are: (a) investigation of the present situation, (b) construction of an ideal type, and (c) formulation and implementation of recommendations. Within this framework the traditional methods of empiricism, rationalism and pragmatism are complementary.

Advantages which Hitt finds in this strategy are that it can (a) help bring together scattered facts in an objective manner, (b) provide a framework for determining the appropriateness of different theories and methods for given problems, (c) indicate directions for appropriate action.

Neal E. Vivian, of The Center for Vocational and Technical Education, presented a paper titled "Development of a Research Matrix for Distributive Education." The planning and programming technique which he presented has proven effective in biochemical research. Mr. Vivian described the step-by-step development of matrices for distributive education curriculum research—the area determined to have the highest priority.

## The Disadvantaged and Research Strategies for the '70s

**Research Related to the Disadvantaged and Research Strategies for the Seventies.** University of Illinois, Division of Agricultural Education, Urbana, Ill. July 1969.

This publication is a report of the proceedings of the 23rd Annual Central Regional Research Conference in Agricultural Education held in Urbana, Ill., July 29-31, 1969. The conference was attended by 67 participants representing 12 states. The publication contains, in addition to summaries of major presentations reported below, committee reports, the conference program and a list of conference participants.

John Coster, director, Center for Occupational Education, North Carolina State University, presented a paper titled "Research Strategies for the Seventies." The following research strategies were offered for the coming decade: more of the research in agricultural education will be applied research; the short-term strategy for research in agricultural education is to expedite the attainment of national goals established by federal legislation.

Lloyd J. Phipps, professor of agricultural education, University of Illinois, and Hollie Thomas and David L. Williams, assistant professors at the University, explained "Project REDY" (Development of Human Resources Through a Vocationally Oriented Educational Program for Disadvantaged Families in Depressed Rural Areas).

This project was designed to (a) study in depth a selected depressed rural area to identify conditions and trends that typify the area; (b) develop and conduct a model vocationally oriented educational program, designed for members of disadvantaged rural families, which will lead to gainful employment for youth, and (c) evaluate through an experimental treatment the model program and develop guidelines for a vocationally oriented educational program for disadvantaged rural youth.

Robert W. Walker, associate professor of agricultural education, University of Illinois, explained the "Warsaw Project," officially titled "Enriching the Basic Scholastic Skills of Slow Learners and Underachievers Through Vocational-Centered Laboratory Learning." This project offers a unique approach to learning through vocationally centered project activities which are developed in three laboratory experiences: the land laboratory, the communications laboratory and the shop laboratory.

John F. Bobbitt, assistant professor, Rural Manpower Center, Michigan State University, described a study in which he evaluated and compared two concurrent work-education models: one with school released time and one without school released time. Both types of concurrent education were found to be workable and Dr. Bobbitt recommended that they both be retained as options for school personnel to select in order to meet their local situation.

Alfred J. Manneback, assistant professor, Research Coordinating Unit, University of Kentucky, reported on a research project in which he evaluated structured occupational experience. Recommendations emanating from this study were:

1. Agricultural occupations instructors should continue to enroll in inservice educational programs to keep current their knowledge of technical subject matter and methods of teaching.

2. Teacher educators should continue to develop and to offer short-term, inservice educational programs to help instructors prepare pupils for entry into any occupation involving knowledge and skill in agriculture.

3. Teacher educators should continue to use structured activities as a method of obtaining short-term, on-the-job, agricultural experience in agricultural firms for instructors of agricultural occupations.

4. Coordination visits to the firms by the teaching staff are very important to maintain communications with personnel in participating firms.

5. Classroom activities should continue to be utilized to discuss and analyze structured occupational experiences in terms of implication for teaching nonfarm agricultural occupations.

Roland Peterson and Roy Dillon of the University of Nebraska presented "The Principles Curriculum," a report of a two-phase (evaluation and comparison) study of the "principles approach" to teaching agricultural subject matter.

Fred Barnes, Don Carver and Harold Lerch of the University of Illinois discussed characteristics of research design with implications for research proposals and evaluation. They first approached the question of "Why design research?" This was followed by a discussion of the characteristics of research design, types of research, the characteristics of data, and kinds of proposals.

"Involving Teachers of Agriculture in Occupational Surveys" was presented by George Richter, supervisor of agricultural occupations, State of Illinois, and Ralph Field, instructor of agricultural education, Purdue University. Richter outlined a statewide agricultural occupations employment opportunity survey conducted by teachers of agricultural occupations in Illinois. Surveys revealed a need for 13,703 full-time replacements in nonfarm agricultural occupations during the period 1969-1973, and an additional 7,911 part-time employees.

Richard Wilson, professor of agricultural education, The Ohio State University, outlined "Project Agriculture," a nationwide study to determine the nature and extent of educational needs associated with employment opportunities in the farm and off-farm agricultural industry and to develop curricular programs for the various areas of agricultural instructions. This project is designed to be carried out over a five-year period.

Vernon Burgener of the Illinois RCU discussed initiating and funding research projects at the state level. He noted that proposals submitted for funding should include the following parts: (a) introduction, (b) objectives, (c) need for the study, (d) procedures, (e) innovative features, and (f) budget.

The final presentation was made by Duane E. Nielsen, director of the Organization and Administration Studies Branch, U. S. Office of Education, who discussed "Initiating and Funding Research Projects — Federal Level."

# plain talk

George L. Brandon, Editor, Research Visibility

**The United States—soon in their third century.** Foreshadowing the importance and anticipation that attend the dawn of a new decade, we shall soon be starting a new century of life. To judge from birthday party planning which is already under way, our country will not be permitted to become sensitive to its age. We shall rejoice in the new milestone with a backward glance at achievements and lessons we have learned.

It is an unparalleled time to face up to new goals—and the manner in which we attain them. The goal-setting is equally important to vocational and technical education. We can (and should) commend goals for the seventies for formal recognition to Resolutions and Program of Work Committees. More important and vital to each of us as Americans, let's have a long and personal look and plan for the future.

**A place for the professional?** This planning activity goes far beyond the payment of membership dues to our educational group. The AVA publication, *Conversation With Lynda,* has a strong and provoking message for each of us in this connotation. More than conversation, Lynda's statement has professional challenge and impact.

She says, "I really think the key to the success of our vocational program is that the teachers care, and that the teachers get involved. They're truly professional, I can say that. It may be nationwide, I don't know."

Obviously, at least to Lynda, the business of being *professional* is intimately related to *caring* about our students' welfare, progress and opportunity. It's also getting *involved*—perhaps even taking a stand—for quality programs in vocational and technical education.

That the attitude on our part is *nationwide,* we can speculate with tongues in cheek. As professionals, in what manner of planning and action do we take for all of our students, the millions of Lyndas and Johnnies who are currently touched by our teachers, the other millions who may be denied the opportunity including the *caring* and *involvement*? No doubt, we should be planning a frank and honest sequel to Lynda's conversation, a *status of the profession* report in our students' terms. If we do, it will be the most difficult *professional* publication we have ever attempted.

**A professional reply to Lynda.** Among many strong, professional concerns of a mythical *Reply to Lynda* should be an intimate assessment of ourselves—our tendency to confuse our personal obligations as members of *administrative* organizations versus our behavior as *professionals.* The two roles are not necessarily antithetical; but too frequently they are. Unfortunately with tradition we have attempted to organize ourselves and our professional behavior in the same manner in which education itself is organized. How, then, within this precarious framework, do we serve the best interests of the Lyndas of our vocational programs?

**Can we keep our balance?** There are those who claim that we have lost it. Is it possible to maintain *balance* in the vocational program—the service to all vocational needs? To what extent is vocational education for *all* students or for the specialized few?

Opinions are strong and vehement: (a) dip down in the elementary and junior high school years and offer *occupational orientation* to all; (b) serve the disadvantaged in the inner city and ghetto; (c) make inroads into rural deprivation and need; (d) con-

centrate on career education and the post-secondary; (e) get with manpower development and the workforce; (f) concentrate on vocational specializations and high-level technologies; (g) give us more specific work and motor skill development; (h) forget job specifics, and give us more well-rounded, generally educated students, etc., etc.

Opinion leaders, admittedly experienced and qualified, are inclined to be exclusive in their prescriptions and advocate dramatic change. If there is a place for balance in the program, will it be achieved by incorporating all ideas and serving each of them a little? Or is balance the real prerogative of the budget? Obviously, the total problem will not go away and save us the trouble of decision-making, planning and evaluating our effort and success.

**Toward Balanced Growth.** ". . . the main question about the future is whether there will be one." . . . It is at such moments that information counts. This is such a moment. If social reporting is to play a role in American governance, this is the time to find out." These words, in very small part, emphasize the spark of introduction of *Toward Balanced Growth: Quantity with Quality*, Report of the National Goals Research Staff, 4 July 1970, Washington, D.C.*

*Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: $1.50.

Counsellor Daniel P. Moynihan's introduction to this important national report is all-American and highly stimulating to the formulation of national goals and the information process. He relates goals, the Eighteenth Decennial Census and the will of the people with special significance.

It was not only the most comprehensive, detailed, informative census ever attempted, it also produced (at least by all early indications) far the most willing and universal response ever from the people themselves. This was not a routine event. A considerable effort had been mounted to restrict the scope of the census, and to present it as in some way an intrusion into the personal life of the citizenry. The citizenry thought otherwise. It is a good sign that in the decade ahead we shall considerably enhance our abilities not only to collect such data, but to put it to the good purpose of democracy.

*RV* editorial opinion recommends the careful study of the report to all vocational professionals, moreso to the interpretation and formulation of a national goal for vocational, technical and practical arts education as it should be promulgated through the professional channels of our membership, its friends and the AVA organization.

AVA has traditionally had, and will continue, to speak out on the national program and its vitality to all Americans. The extent to which individual AVA members are familiar with and take action on the national visibility of vocational education is essentially our top-drawer problem and priority. The ultimate medium through which to proceed is the organization's Resolution and Program of Work Committee and its Divisional representatives. Conventioneers and the members they represent should not overlook this important function.

It should be made clear that the National Goals Research Staff neither undertook to set goals nor to be a planning office. It did study and compare national domestic strategies available to the Nation and which can help in making essential informed choices to guide change. Chapters of the report are general (vocational education *per se* is not mentioned): I. Emerging Debates; II. Population Growth and Distribution; III. Environment; IV. Education; V. Basic Natural Science; VI. Technology Assessment; VII. Consumerism; VIII. Economic Choice and Balanced Growth; IX. Toward Balanced Growth, and Appendix.

The Research Staff admittedly seeks to promote and provoke discussion and debate. No doubt, these objectives will be realized.

By and large, it would seem that we must look for some appropriate mix rather than shift over to a complete doctrine of relevance. In the meantime, we need to develop further understanding of the educational process and how to evaluate it. We must further develop an experimental posture toward innovation in education which will reflect our basic uncertainty as to how to go about the many problems with which the educational system is faced.

As vocational educators and AVA'ers, let's join the discussion and the national goal setting.

# bibliography

For information on ordering documents, see page 80

## STUDIES REPORTED IN THIS ISSUE

### Topic One: Review and Synthesis of Research Series

"Review and Synthesis of Research on Vocational Education in Rural Areas." B. Eugene Griessman and Kenneth G. Densley. ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, Las Cruces, and The Center for Vocational and Technical Education, The Ohio State University, Columbus. December 1969. 84 pages. (ERIC # ED 034 632. HC: $2.55, MF: 25¢. Also available from The Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Rd., Columbus, Ohio 43210. Price: $1.75.)

"Review and Synthesis of Research: Analysis for Curriculum Development in Vocational Education." Milton E. Larson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. October 1969. (ERIC # ED 035 746. HC: $4.20, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $1.75.)

"Review and Synthesis of Research in Agricultural Education: Second Edition." Earl T. Carpenter and John H. Rodgers. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970. 83 pages. (Available from The Center for Vocational and Technical Education.)

"Review and Synthesis of Research on Cooperative Vocational Education." Harold R. Wallace. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970. 116 pages. (Available from The Center for Vocational and Technical Education.)

"Review and Synthesis of Research in Health Occupations Education." Lewis D. Holloway and Elizabeth E. Kerr. The

Center for Vocational and Technical Education, The Ohio State University, Columbus. May 1969. 97 pages. (ERIC # ED 029 982. HC: $4.95, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.75.)

"Review and Synthesis of Research on The Placement and Follow-up of Vocational Education Students." J. Kenneth Little. The Center for Vocational and Technical Education, The Ohio State University, Columbus. February 1970. 48 pages. (ERIC # ED 037 543. HC: $2.80, MF: 25¢. Also available from The Center for Vocational and Technical Education. Price: $1.75.)

"Review and Synthesis of Research on the Administration of Vocational and Technical Education." Ralph C. Wenrich. The Center for Vocational and Technical Education, The Ohio State University, Columbus. March 1970. 78 pages. (ERIC # ED 037 542. HC: $4.00, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Review and Synthesis of Research on Distributive Education: Second Edition." Richard D. Ashmun and Roger A. Larson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970. 80 pages. (ERIC # ED 038 498. HC: $4.55, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Review and Synthesis of Research on Home Economics Education: Second Edition." Helen Y. Nelson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970. 61 pages. (ERIC # ED 038 519. HC: $3.45, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $1.75.)

#### Topic Two: Research Bibliographies

"Bibliography of Research on Consumer and Homemaking Education." Anna M. Gorman and Joel H. Magisos. The Center for Vocational and Technical Education, The Ohio State University, Columbus. June 1970. 71 pages. (Complimentary copies available from The Center for Vocational and Technical Education. See September 1970 issue of RIE for ED #.)

"A Selected and Annotated Bibliography: The Change Process in Education." Gail J. Skelton and J. W. Hensel. The Center for Vocational and Technical Education, The Ohio State University, Columbus. 1970. 95 pages. (Available from The Center for Vocational and Technical Education.)

#### Topic Three: Planning Research Strategy

"A Plan for Research in Distributive Education: Report of A Research Planning Seminar. Final Report." Neal E. Vivian. The Center for Vocational and Technical Education, The Ohio State University. Columbus. November 1969. 74 pages. (ERIC #ED 035 720. HC: $3.90, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.50.)

"Research Related to the Disadvantaged and Research Strategies for the Seventies." University of Illinois, Division of Agricultural Education, Urbana, Ill. July 1969. 25 pages. (ERIC # ED 035 762. HC: $1.35, MF: 25¢. Also available from Agricultural Education Division, Vocational and Technical Education Department, 357 Education Bldg., University of Illinois, Urbana, Ill. 61801. Price: 50¢.)

## ADDITIONAL STUDIES

#### Topic One: Review and Synthesis of Research Series

"Review and Synthesis of Research in Trade and Industrial Education, Second Edition." Albert J. Paulter and Carl J. Schaefer. The Center for Vocational and Technical Education, The Ohio State University, Columbus. September 1969. (ERIC # ED 036 638. HC: $2.90, MF: 25¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Review and Synthesis of Research in Technical Education, Second Edition." Donald S. Phillips and Lloyd D. Briggs. The Center for Vocational and Technical Education, The Ohio State University, Columbus. October 1969. (ERIC # ED 036 639. HC: $2.60, MF: 25¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Review and Synthesis of Research in Industrial Arts Education, Second Edition." Daniel L. Householder and Alan R. Suess. The Center for Vocational and Technical Education, The Ohio State University, Columbus. October 1969 (ERIC # ED 034 898. HC: $3.55, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Review and Synthesis of Research in Home Economics Education." Hester Chadderdon and Alyce M. Fanslow. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 563. HC: $4.72, MF: 50¢.)

"Review and Synthesis of Research in Business and Office Occupations Education." Frank W. Lanham and J. M. Trytten. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 566. HC: $5.76, MF: 75¢.)

"Review and Synthesis of Research in Technical Education." Milton E. Larson. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 559. HC: $3.36, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $1.50.)

"Review and Synthesis of Research in Distributive Education." Warren G. Meyer and William B. Logan. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 565. HC: $9.24, MF: $1.00.)

"Review and Synthesis of Research in Industrial Arts." Jerry Streichler. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 564. HC: $4.08, MF: 50¢.)

"Review and Synthesis of Research in Trade and Industrial Education." Bruce W. Tuckman. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 560. HC: $3.64, MF: 50¢.)

"Review and Synthesis of Research on the Economics of Vocational Education." J. Robert Warmbrod. The Center for Vocational and Technical Education, The Ohio State University, Columbus. November 1968. (ERIC # ED 023 937. HC: $3.20, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $1.50.)

"Review and Synthesis of Research in Agricultural Education." J. Robert Warmbrod and Lloyd J. Phipps. The Center for Vocational and Technical Education, The Ohio State University, Columbus. August 1966. (ERIC # ED 011 562. HC: $6.20, MF: 75¢. Also available from The Center for Vocational and Technical Education. Price: $1.50.)

"Review and Synthesis of Research in Business and Office Education: Second Edition." Ray G. Price and Charles R. Hopkins. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970. 113 pages. (ERIC # ED 038 520. HC: $6.10, MF: 50¢. Also available from The Center for Vocational and Technical Education. Price: $2.25.)

"Discrimination in Employment: An Appraisal of the Research." Dale L. Hiestand. The Institute of Labor and Industrial Relations, The University of Michigan — Wayne State University, Ann Arbor, Mich., and the National Manpower Policy Task Force, Washington, D.C. February 1970. 68 pages. (Available from the Publications Office, Institute of Labor and Industrial Relations, P. O. Box B-1, Ann Arbor, Mich. 48106.)

"Rural Worker Adjustment to Urban Life: An Assessment of the Research." Varden Fuller. The Institute of Labor and Industrial Relations, The University of

Michigan—Wayne State University, Ann Arbor, Mich., and the National Manpower Policy Task Force, Washington, D.C. February 1970. 87 pages. (Order from the Publications Office, Institute of Labor and Industrial Relations, P.O. Box B-1, Ann Arbor, Mich. 48106. Price: $2.25.)

**Topic Three: Planning Research Strategy**

"University Manpower Research Seminar for the Stimulation of Professional Research Interest." Institute for Research on Human Resources, The Pennsylvania State University, University Park. October 1969. 71 pages. (A limited number of copies of this report is available from Institute for Research on Human Resources, The Pennsylvania State University, 411 Boucke Bldg., University Park, Pa. 16802.)

"Selected Statistics on Educational Personnel." Leslie J. Silverman and Stafford Metz. National Center for Educational Statistics, U.S. Office of Education, Washington, D.C. 1970. 59 pages. (Available from GPO. Price: 65¢.)

"Inventory of Vocational Education Statistics Available in Federal Agencies." Evelyn R. Kay. National Center for Educational Statistics, U.S. Office of Education, Washington, D.C. May 1970. 59 pages. (Available from GPO. Price: 65¢.)

"Engineering and Technology in Arizona." Arthur M. Lee. Northern Arizona University, Flagstaff, Ariz. 1968. 274 pages. (Available at $3 per copy from Arizona Research Coordinating Unit, 1333 W. Camelback, Phoenix, Ariz. 85013.)

**Topic Four: Previously Reported Subjects**

"Dimensions of Educational Need." Roe L. Johns, *et al.*, eds. National Educational Finance Project, Gainesville, Florida. 1969. 242 pages. (Limited number of copies available from National Educational Finance Project, 1212 S.W. 5th Ave., Apt. 5, Gainesville, Fla. 32601.)

"Good Training, Good Jobs: MDTA." U.S. Office of Education, Washington, D.C. 1970. 15 pages. (Available from GPO. Price: 25¢.)

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"Equivalency and Proficiency Testing Related to the Medical Laboratory Field." National Committee for Careers in Medical Technology, Bethesda, Md. March 1970. 150 pages. (Copies may be obtained from the Division of Allied Health Manpower, Rm 3B47, Bldg. 31, National Institutes of Health, Bethesda, Md. 20014.)

"The Relative Effectiveness of Two Sources of Feedback on Teachers in the Micro-Teaching Situation." Patricia Collofello, *et al.* Minnesota Research Coordinating Unit for Vocational Education, University of Minnesota, Minneapolis, Minn. 1970. 17 pages. (Copies available upon request from Research Coordinating Unit for Vocational Education, 145 Peik Hall, University of Minnesota, Minneapolis, Minn. 55455.)

"Process and Techniques of Vocational Curriculum Development: Report of a Seminar." Brandon B. Smith and Jerome Moss, Jr. Minnesota Research Coordinating Unit for Vocational Education, University of Minnesota, Minneapolis, Minn. 55455. April 1970. 125 pages. (Copies available upon request from Research Coordinating Unit for Vocational Education, 145 Peik Hall, University of Minnesota, Minneapolis, Minn. 55455.)

## ORDERING INFORMATION

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price. Address for The Center for Vocational and Technical Education, The Ohio State University, is: 1900 Kenny Rd., Columbus, Ohio 43210.

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